

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior versions and listings of claims in the present application.

Listing of Claims:

Claim 1. (Currently Amended) A control apparatus for a vehicle comprising:

obstruction detection means including radar apparatus for measuring a headway distance to an obstruction existing ahead of said vehicle;

means for performing a plurality of vehicle control or alarm control modes on the basis of said headway distance, said modes including at least two of a tracking-upon congestion control mode, an adaptive cruise control mode and a collision reduction control mode;

means for judging a detection performance level of said obstruction detection means ~~in a vehicle in which said obstruction detection means is used to perform two or more controls including said vehicle control or alarm control;~~ and

means for individually selectively enabling or interrupting operation of individual ones of said vehicle control or [[said]] alarm control modes

in accordance with said detection performance level.

Claim 2. (Currently Amended) A control apparatus for a vehicle according to Claim 1, further comprising means for notifying a vehicle driver of interruption of operation of said vehicle control or [[said]] alarm control modes.

Claim 3. (Previously Presented) A radar apparatus mounted in a vehicle, comprising:

obstruction detection means for detecting an obstruction existing ahead of said vehicle by means of said radar apparatus;

means for acquiring a speed of the vehicle;

means for identifying a moving body from said obstruction on the basis of said speed;

means of calculating an RCS value of said moving body;

means for statistically processing said RCS value; and

means for judging a detection performance level of said obstruction

detection means on the basis of a result of said statistical processing.

Claim 4. (Canceled.)

Claim 5. (Previously Presented) A radar apparatus mounted in a vehicle, comprising:

obstruction detection means for measuring a headway distance to an obstruction existing ahead of said vehicle or a relative speed to the obstruction;

means for classifying detection performance of said obstruction detection means into at least three different levels, and

means for outputting a signal indicative of said level of performance.

Claim 6. (Previously Presented) A vehicle having a control apparatus according to Claim 1, and further comprising:

means for acquiring a speed of said vehicle; and

communication means for conveying information concerning a

relation of said vehicle and said obstruction to a driver based on at least one of said speed of said vehicle and said measured headway distance; wherein,

traveling control of said vehicle is performed on the basis of at least one of said speed of said vehicle and said measured headway distance; and

a method by which said communication means conveys information to said driver is changed on the basis of said judged detection performance level.

Claim 7. (Previously Presented) A control apparatus of a vehicle according to Claim 1, wherein:

a vehicle speed is acquired;

information concerning a relation of said vehicle and said obstruction is communicated to a driver based on at least one of said speed of said vehicle and said measured headway distance;

traveling control of said vehicle is performed on the basis of said speed of said vehicle and/or said measured headway distance; and

a method of said communication of said information to the driver is

changed based on said judged detection performance level.

Claim 8. (Previously) A vehicle according to Claim 6, further comprising

means for canceling said traveling control of said vehicle based on said judged detection performance level.

Claim 9. (Original) A vehicle according to Claim 8, further comprising

means for notifying the driver that said traveling control of said vehicle has been canceled.

Claims 10-12. (Cancelled).

Claim 13. (Previously Presented) A vehicle according to Claim 6, wherein said means for judging a detection performance level of said obstruction detection means comprises:

means for calculating an RCS value of said detected obstruction on the basis of said speed of said vehicle and comparing a value calculated on the

basis of said RCS value with a predetermined value set previously to thereby judge detection performance of said obstruction detection means.

Claims 14. – 16. (Cancelled)

Claim 17. (Previously Presented) A vehicle according to Claim 6, wherein said means for judging a detection performance level of said obstruction detection means, comprises:

means for setting as an initial value at least one of a distance at which an obstruction approaching said vehicle begins to be detected and a distance at which an obstruction receding from said vehicle begins to be missed when said obstruction detection means is normal;

means for calculating a current value of at least one of said distance at which said obstruction approaching said vehicle begins to be detected and said distance at which said obstruction receding from said vehicle begins to be missed; and

means for comparing said initial value with said current value to thereby judge the detection performance level of said obstruction detection means.

Claim 18. (Original) A vehicle control apparatus according to Claim 1, further comprising means for classifying said detection performance into a plurality of levels.

Claim 19. (Original) A control apparatus for a vehicle according to Claim 1, wherein said obstruction detection means is a millimeter-wave radar.